

Amendments to the Claims

1. (Currently amended) An ETC (electronic toll collection) system, comprising:
an antenna having a predetermined directivity for providing a limited radio-communication, service zone;
a vehicle sensor positioned at a location closer to oncoming vehicles than said antenna by a predetermined interval for detecting a vehicle which reaches a predetermined position in the limited radio-communication service zone, the predetermined position being defined by the location of the vehicle sensor;
first means for continuously transmitting a radio signal via the antenna independently of whether or not the vehicle sensor detects the vehicle;
second means for deciding whether or not a radio response to the radio signal is received via the antenna;
third means for, in cases where the second means decides that a radio response to the radio signal is received, judging that there is an ETC vehicle incoming coming into the limited radio-communication service zone; and
fourth means for, in cases where the vehicle sensor detects a vehicle while the second means decides that a radio response to the radio signal is not received, judging that there is a non-ETC vehicle incoming coming into the limited radio-communication service zone.
2. (Canceled)
3. (Previously presented) An ETC system as recited in claim 1, wherein the limited radio-communication service zone has a length greater than a length of a vehicle and smaller than twice the length of said vehicle.
4. (Original) An ETC system as recited in claim 1, wherein the limited radio-communication service zone has a length of about 6.5 m along a lane.

5. (Original) An ETC system as recited in claim 1, wherein the vehicle sensor is only one in the ETC system.
6. (Currently amended) An ETC (Electronic Toll Collection) system, comprising:
an antenna having a predetermined directivity for providing a limited radio-communication service zone;
~~transceiver means working cooperatively with said antenna for outputting a radio signal at a given rating level to cover a limited radio-communication service zone;~~
a vehicle sensor positioned at a location closer to oncoming vehicles than said antenna by a predetermined interval for detecting whether a vehicle has reached a predetermined position in said limited radio-communication zone, the predetermined position being defined by the location of the vehicle sensor;
said transceiver means further working cooperatively with said antenna for continuously transmitting a radio signal at a given rating level to cover the limited radio-communication service zone independently of whether or not the vehicle sensor detects a vehicle and for detecting a radio response to said radio signal from each vehicle detected by said vehicle sensor within said radio-communication service zone; and
processor means for deciding a vehicle that has been detected by said vehicle sensor in said radio-communication service zone is a non-ETC vehicle if no radio response to said radio signal is detected from said vehicle.
7. (Previously presented) An ETC system of claim 6, wherein said processor means decides a vehicle that has been detected by said vehicle sensor in said radio-communication zone is an ETC vehicle if a radio response to said radio signal is detected from said vehicle.
8. (Previously presented) An ETC system as recited in claim 1, wherein the antenna is one in number.

9. (Previously presented) An ETC system as recited in claim 1, wherein the antenna comprises a matrix array of antenna elements.

10. (Previously presented) An ETC system as recited in claim 6, wherein the antenna comprises a matrix array of antenna elements.